

REMARKS

The present Amendment amends claims 1-13. Therefore, the present application has pending claims 1-13.

Request for Copy of References Not Furnished

In the Office Action, the Examiner relies upon Figs. 1 and 6 of Japanese Publication No. 09-149894 to Atsushi, et al. ("Atsushi") (see, e.g., the rejection of claims 1 and 13 in paragraph 7 of the Office Action). However, only the translated Abstract and an English-language translation of the Atsushi reference were supplied. Neither the Abstract nor the translation includes a copy of Figs. 1 and 6. Therefore, Figs. 1 and 6 of the Atsushi reference are not of record, and it appears that a complete copy of the Atsushi reference, as relied upon by the Examiner, has not been provided to Applicants. Accordingly, Applicants respectfully request the Examiner to provide a complete copy of the Atsushi reference, including any figures relied upon.

Claim for Foreign Priority

The Examiner alleges that Applicants have not filed a certified copy of Japanese Patent Application No. 2003-022988 as required by 35 U.S.C. 119(b). However, contrary to the Examiner's assertions, Applicants filed a claim for foreign priority and the certified copy of the priority document on August 18, 2003. A review of Public PAIR confirms that the certified copy of Japanese Patent Application No. 2003-022988 was received and published by the Office (*see* entry having a mail room date of August 18, 2003, entitled "Certified Copy of Foreign Priority Application", 34 pages). Therefore, Applicants respectfully request that the Examiner acknowledge receipt of the certified copy of the priority document.

Information Disclosure Statement

In the Office Action, the Examiner alleges that the Information Disclosure Statement (IDS) filed on June 30, 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP §609 because the Shimoda, et al. ("Shimoda") reference has not been translated in English. The Examiner further alleges that a translated Abstract for the Shimoda reference has not been submitted to the Office, and as a result, the Examiner has not considered the Shimoda reference. However, contrary to the Examiner's assertions, a translated Abstract for the Shimoda reference was submitted to the Office, and a review of Public PAIR confirms that the Abstract was received and published by the Office (*see* the entry having a mail room date of June 30, 2003, entitled "Foreign Reference", 7 pages). As shown in Public PAIR, page 2 of the 7 page Shimoda reference includes an English-language Abstract. Therefore, the Examiner's consideration of Shimoda is respectfully requested.

Specification

The disclosure is objected to due to informalities noted by the Examiner. Specifically, the Examiner alleges that the specification fails to provide proper antecedent basis for the claimed subject matter (i.e., claim 9 lacks antecedent basis for "said judgment"). Where appropriate, Applicants have amended claim 9 to overcome this objection. Therefore this objection should be withdrawn.

Claim Objections

Claims 11 and 12 stand objected to due to informalities noted by the Examiner. Amendments were made to claims 11 and 12 to correct the informalities. Therefore, this objection is overcome and should be withdrawn.

35 U.S.C. §101 Rejections

Claims 1-12 stand rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. More specifically, the Examiner alleges that claims 1-12 manipulate an abstract idea without producing a tangible result. This rejection is traversed for the following reasons.

Regarding claims 1 and 2, Applicants submit that claim 1 and 2, as now more clearly recited, are directed to statutory subject matter. More specifically, claims 1 and 2 are directed to a new and useful learning condition judging program executed in an information processing apparatus, where the program is classified into the statutory category of a “manufacture” (e.g., article, medium, product, program, element, data structure, GUI, etc.), and consistent with any definitions in the specification, elements or features of the claimed program are necessarily implemented in hardware (e.g., an information processing apparatus). Therefore, contrary to the Examiner’s assertions, the subject matter of claims 1 and 2 is tangible. Furthermore, claims 1 and 2 recite at least one functional element, and therefore, are not directed to merely an abstract idea.

Regarding claims 3-11, Applicants submit that claims 3-11, as now more clearly recited, are directed to statutory subject matter. More specifically, claims 3-11 are directed to a new and useful learning condition judging program executed on a computer, where the program is classified into the statutory category of a “manufacture” (e.g., article, medium, product, program, element, data structure, GUI, etc.), and consistent with any definitions in the specification, elements or features of the claimed program are necessarily implemented in hardware (e.g., a computer). Therefore, the subject matter of claims 3-11 is tangible. Furthermore, claims 3-11 recite at least one functional element, and therefore, are not directed to merely an abstract idea.

Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

35 U.S.C. §102 Rejections

Claims 1 and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by Japanese Publication No. 09-149894 (computer translation) to Atsushi, et al. ("Atsushi"). This rejection is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 1 and 13 are not taught or suggested by Atsushi, either taken individually or in combination any of the other references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly recite that the present invention is directed to a learning condition judging program executable in an information processing apparatus and a system for judging a learning condition as recited, for example, in independent claims 1 and 13.

The present invention, as recited in claim 1, and as similarly recited in claim 13, provides a learning condition judging program that is executed in an information processing apparatus connected to a near infrared measuring device. The program is operable on the information processing apparatus to perform a step of starting a learning program in the information processing apparatus. The program is also operable on the information processing apparatus to continuously acquire, as the learning program progresses, measurement information of a blood flow rate in a brain of a user of the information processing apparatus, where the measurement information is obtained from the near infrared measuring device through an information acquiring

means. Another step of the present invention includes acquiring input information and operation information provided by the user to the information processing apparatus through input means, where the input information and the operation indicate the progress of the learning program. The program is further operable on the information processing apparatus to perform a step of storing the measurement information, the input information and the operation information in storage, in association with the acquired progress of the learning program, in chronological correspondence. Another step includes sending information stored in the storage to a connected external device. The prior art does not disclose all of these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record, particularly Atsushi, whether taken individually or in combination with any of the other references of record.

Atsushi teaches a living body input device and living body controller using an optical living body measurement method. However, there is no teaching or suggestion in Atsushi of the learning condition judging program executable in an information processing apparatus and a system for judging a learning condition, as recited in claims 1 and 13 of the present invention.

Atsushi discloses a device and method for measuring localized brain functions to control a computer, a game, an environment controller, a learning level judgment device, a vehicle alarm, medical diagnostic and alarm devices, a lie detector, an intention display device, and an information transmitter, etc. The device includes an optical brain function measurement device, which is attached to a user by use of optical fibers for irradiation and convergence. The head part transmission light intensity of

respective measurement areas measured by the optical brain function measurement device is input to an arithmetic unit. The arithmetic unit uses the head part transmission light intensity of the respective measurement areas and the absorption coefficient of oxidized and reduced hemoglobin stored in a storage device to determine output signals. The output signals are input to an external device, which performs an operation corresponding to the type of signal input to the external device.

One feature of the present invention, as recited in claim 1, and as similarly recited in claim 13, includes a step of continuously acquiring, as the learning program progresses, measurement information of a blood flow rate in a brain of a user of the information processing apparatus, where the measurement information is obtained from the near infrared measuring device through an information acquiring means. Atsushi does not disclose this feature. As described in the Abstract, Atsushi is directed to a device and method for controlling another device, such as a computer, a game, etc. by measuring localized brain functions of a user. The measured brain functions are then processed by an arithmetic unit and used to control the other device. Unlike in the present invention, Atsushi does not disclose continuously acquiring measurement information, as the learning program progresses. In the present invention, measurement information is continuously acquired to monitor the learning progress of a user. This feature is not present in Atsushi.

Another feature of the present invention, as recited in claim 1, and as similarly recited in claim 13, includes acquiring input information and operation information provided by the user to the information processing apparatus through an input means, where the input information and the operation indicate the progress of the learning program. Atsushi does not disclose this feature. As described in paragraph [0001],

Atsushi is directed to the control of a device without the use of an input means, such as a keyboard or a mouse. An object of Atsushi is to control a device by using measured localized brain functions of a user, rather than using conventional input means. Therefore, Atsushi does not disclose acquiring input information and operation information provided by the user to an information processing apparatus via input means, where the input information and the operation information are indicative of the progress of the learning program, as claimed.

Yet another feature of the present invention, as recited in claim 1, and as similarly recited in claim 13, includes storing the measurement information, the input information and the operation information in storage, in association with the acquired progress of the learning program, in chronological correspondence. Atsushi does not disclose this feature. As previously discussed, Atsushi does not teach acquiring measurement information, input information and operation information, in the manner claimed. Therefore, it follows that Atsushi does not teach storing the measurement information, input information and operation information. Furthermore, Atsushi does not teach or suggest storing the information, as claimed, in association with the acquired progress of the learning program, in chronological correspondence.

Therefore, Atsushi fails to teach or suggest “continuously acquiring, as said learning program progresses, measurement information of a blood flow rate in a brain of a user of said information processing apparatus, said measurement information being obtained from said near infrared measuring device through an information acquiring means” as recited in claim 1, and as similarly recited in claim 13.

Furthermore, Atsushi fails to teach or suggest “acquiring input information and operation information given by said user to said information processing apparatus

through input means, wherein the input information and the operation information indicate progress of said learning program” as recited in claim 1, and as similarly recited in claim 13.

Even further, Atsushi fails to teach or suggest “storing in storage said measurement information, said input information and said operation information in association with said acquired progress of said learning program with chronological correspondence” as recited in claim 1, and as similarly recited in claim 13

Therefore, Atsushi does not teach or suggest the features of the present invention, as recited in claims 1 and 13. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §102(b) rejection of claims 1 and 13 as being anticipated by Atsushi are respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references used in the rejection of claims 1 and 13.

35 U.S.C. §103 Rejections

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atsushi in view of Japanese Publication No. 05-046066 (computer translation) to Fumio. This rejection is traversed for the following reasons. Applicants submit that the features of the present invention, as now more clearly recited in claim 3, are not taught or suggested by Atsushi or Fumio, whether taken individually or in combination with each other in the manner suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention. Specifically, amendments were made to the claims to more clearly

recite that the present invention is directed to a learning condition judging program executable on a computer as recited, for example, in independent claim 3.

The present invention, as recited in claim 3, provides a learning condition judging program executable on a computer, where the program is operable on the computer to perform a step of concurrently acquiring, through input means, information regarding contents executed in a connected terminal, information regarding a blood flow rate in a brain of a user of the terminal, and operation information and input information provided by the user to the terminal. The program is further operable on the computer to analyze a rate of change in hemoglobin concentration from the blood flow rate. Another step includes judging a degree of concentration of the user of the terminal by using the operation information and input information and the analyzed rate of change in the hemoglobin concentration at a corresponding time. The program is further operable on the computer to store information regarding the degree of concentration in association with the contents. The prior art does not teach or suggest all of these features.

The above described features of the present invention, as now more clearly recited in the claims, are not taught or suggested by any of the references of record. Specifically, the features are not taught or suggested by either Atsushi or Fumio, whether taken individually or in combination with each other.

As previously discussed, Atsushi teaches a living body input device and living body controller using an optical living body measurement method. However, there is no teaching or suggestion in Atsushi of the learning condition judging program executable on a computer as recited in claim 3 of the present invention.

One feature of the present invention, as recited in claim 3, includes concurrently acquiring, through input means, information regarding contents executed in a connected

terminal, information regarding a blood flow rate in a brain of a user of the terminal, and operation information and input information provided by the user to the terminal. Atsushi does not disclose this feature. As described in the Abstract, Atsushi is directed to a device and method for controlling another device, such as a computer, a game, etc. by measuring localized brain functions of a user. The measured brain functions are then processed by an arithmetic unit and used to control the other device. Unlike in the present invention, Atsushi does not disclose concurrently acquiring information regarding contents executed in a connected terminal, information of a blood flow rate, and operation information and input information provided by the user to the terminal. In the present invention, various types of information are concurrently acquired to monitor the learning progress of a user. This feature is not present in Atsushi.

Another feature of the present invention, as recited in claim 3, includes judging a degree of concentration of the user of the terminal by using the operation information and input information, and the analyzed rate of change in the hemoglobin concentration at a corresponding time. Atsushi does not disclose this feature, and the Examiner does not rely upon Atsushi for teaching this feature.

Therefore, Atushi fails to teach or suggest “acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal, and operation information and input information given by said user to said terminal” as recited in claim 3.

Furthermore, Atsushi fails to teach or suggest “judging a degree of concentration of said user of said terminal using the operation information and input information and said analyzed rate of change in hemoglobin concentration at a corresponding time” as recited in claim 3.

The above noted deficiencies of Atsushi are not supplied by any of the other references of record, namely Fumio, whether taken individually or in combination with each other. Therefore, combining the teachings of Atsushi and Fumio in the manner suggested by the Examiner still fails to teach or suggest the features of the present invention as now more clearly recited in the claims.

Fumio teaches an education supporting device. However, there is no teaching or suggestion in Fumio of the learning condition judging program executable on a computer as recited in claim 3 of the present invention.

Fumio discloses an education supporting device for enhancing a learner's understanding, to advance learning contents, and to improve learning efficiency. The device reproduces an optical disk, where the learning contents are recorded distinctively at every chapter by using indexes on a player. The player includes an alpha-wave detector that detects the alpha wave of a learner's brain wave, a concentration degree discriminating part that decides the degree of concentration using the alpha-wave detection from the alpha-wave detector, and an index detection part that detects the index of the chapter of learning contents that are low in the degree of concentration according to the decision of result of the concentration degree decision part. The chapter is repeatedly reproduced according to the detected index of the chapter low in the degree of concentration.

One feature of the present invention, as recited in claim 3, includes concurrently acquiring, through input means, information regarding contents executed in a connected terminal, information regarding a blood flow rate in a brain of a user of the terminal, and operation information and input information provided by the user to the terminal. Fumio does not disclose this feature, and the Examiner does not rely upon Fumio for teaching

this feature.

Another feature of the present invention, as recited in claim 3, includes judging a degree of concentration of the user of the terminal by using the operation information and input information and the analyzed rate of change in the hemoglobin concentration at a corresponding time. Fumio does not disclose this feature. To support the assertion that Fumio teaches a step of judging a degree of concentration, the Examiner cites paragraph [0007]. However, neither the cited text nor any other portions of Fumio teach or suggest a step of judging a degree of concentration, as claimed. For example, the cited text does not disclose where the degree of concentration is determined using operation information and input information provided by the user to the terminal, and an analyzed rate of change in hemoglobin concentration. Furthermore, the cited text does not disclose where the degree of concentration is determined using operation and input information and the analyzed rate of change, at a corresponding time, as in the present invention.

Therefore, Fumio fails to teach or suggest “acquiring concurrently, through input means, information of contents executed in a connected terminal, information of a blood flow rate in a brain of a user of said terminal, and operation information and input information given by said user to said terminal” as recited in claim 3.

Furthermore, Fumio fails to teach or suggest “judging a degree of concentration of said user of said terminal using the operation information and input information and said analyzed rate of change in hemoglobin concentration at a corresponding time” as recited in claim 3.

Both Atsushi and Fumio suffer from the same deficiencies, relative to the features of the present invention, as recited in the claims. Therefore, combining the

teachings of Atsushi and Fumio in the manner suggested by the Examiner does not render obvious the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection of claim 3 as being unpatentable over Atsushi in view of Fumio are respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references used in the rejection of claim 3.

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Atsushi in view of U.S. Patent No. 5,944,530 to Ho, et al. ("Ho"). Claims 4-12 stand rejected as being unpatentable over Atsushi in view of Fumio, further in view of Ho. These rejections are traversed for the following reasons. Applicants submit that claim 2 is dependent on claim 1 and claims 4-12 are dependent on claim 3. Therefore, claim 2 is allowable for at least the reasons discussed above regarding independent claim 1, and claims 4-12 are allowable for at least the reasons discussed above regarding independent claim 3. Accordingly, the Examiner is requested to reconsider and withdraw these rejections.

In view of the foregoing amendments and remarks, Applicants submit that claims 1-13 are in condition for allowance. Accordingly, early allowance of claims 1-13 is respectfully requested.

To the extent necessary, Applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger, Malur & Brundidge, P.C., Deposit Account No. 50-1417 (referencing attorney docket no. 500.42880X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

A handwritten signature in cursive script, reading "Donna K. Mason", is written over a horizontal line.

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